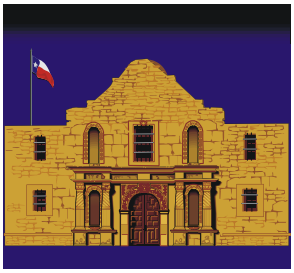

Proposed Policy on
Temporary Pump Stations & Force Mains

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For decades the community has been well served by its policy to use a gravity based sanitary sewer system. This policy has led to more efficient and cost effective utility service for the citizens and rate payers. Alternatives, such as relying on pump stations, are more expensive to maintain and operate in the long run.

More importantly, the gravity system is a fundamental tool of the City's infrastructure and community planning that has allowed Lincoln to grow in a more contiguous and predictable manner in order to meet the community's goals.

The 2025 Lincoln/ Lancaster County Comprehensive Plan states:

> *"The City's collection system, in general, will continue to be a gravity fed system that is designed to accommodate urbanization of drainage basins and sub-basins. This system encourages orderly growth within the natural drainage basin boundaries. This policy encourages urban growth from the lower portion of the drainage basin and prohibits pumping of wastewater across basin boundaries. Explore alternative methods, such as lift stations, where practical."*

The adopted City of Lincoln sanitary sewer design standards state:

> *"The various elements of the sanitary sewer system in the City of Lincoln are designed to handle only that wastewater contribution which originates within the natural surface watershed where in the sanitary sewer system is located. The transfer of wastewater from one watershed to another by any means, such as lift station or construction of a sanitary sewer which cuts through the ridge separating the watersheds, shall not be permitted."*

In light of developer requests to waive this standard and permit temporary pump stations and force mains, it is recommended that such requests be considered based on the criteria on the following pages.

1. **Temporary Basis:** Pump stations are more expensive to maintain and operate than gravity systems and will only be allowed on a temporary basis. Gravity flow sanitary sewer lines are still the best and most cost efficient long term method to provide service. Temporary shall mean a period up to **six years**, at which point the new gravity line is built allowing the facility to be discontinued. As soon as the gravity line is available, the pump station shall be discontinued and removed.

2. **Priority A Areas Only:** Pump stations and force mains shall only be allowed in Tier I - Priority A areas; provided that the gravity trunk line to the service area is in the 6 Year Capital Improvement Program (CIP) with funding clearly identified.

3. **Limited Use:** The City of Lincoln's gravity sewer system policy has served the community well for decades. It is the most efficient and cost effective system for the citizens and rate payers of Lincoln. Pump stations and force mains shall only be used in unusual circumstances for a substantial public benefit. It is anticipated that temporary pump stations may only be used one or two times in the entire Lincoln area. In the vast majority of situations, gravity sewer should be used, even if the trunk line construction is several years away. Pump stations and force mains are to be temporary due to a delay in the construction of the gravity line.

4. **Impact on Other Services:** Use of a pump station to advance development may also impact the provision of other public services. Thus, the developer must address the following information (based on principles for serving Priority B areas before Priority A areas, page F 30 of the Comprehensive Plan):

    a. "Demonstrate how the necessary infrastructure improvements to serve the sub-basin would be provided and financed. The City shall contact other public agencies to obtain their report on the infrastructure necessary to serve the sub-basin including utilities, roads, fire service, public safety, parks, trails, schools and library needs.

    b. The impact that development in the sub-basin will have on capital and operating budgets, level of service, service delivery and Capital Improvement Programs is addressed.

    c. There is demonstrated substantial public benefit and circumstances that warrant approval of the proposal in advance of the anticipated schedule."

5. **Crossing Creeks:** Permanent lift stations to transfer sewage from one side of a creek to the other, as part of gravity system have always been permitted. There are circumstances where a lift station to cross a creek is the best solution instead of siphons. This has been a policy and practice of the city for decades.

6. **Receiving Sewer Line Capacity:** The receiving trunk and/or smaller line must have capacity based on current and projected flows to receive the extra flow during the temporary basis. The projected capacity should assume a full buildout of any land that is already planned to be served in the Comprehensive Plan. The projected capacity should be based on a reasonable buildout of any undeveloped land.

7. **Basins with Sewer Line Capacity**: The following sanitary sewer trunk lines have capacity as of this date (assuming projected Tier I development)

Lines With Capacity	**Lines Without Capacity**
- West O	- Havelock
- Little Salt	- Dead Man's Run
	- East Campus
	- Antelope Creek
	- Beal Slough
	- Salt Creek (south)
	- Middle Creek
	- Oak Creek
	- Lynn Creek

"Lines Without Capacity" is based on existing and approved developments underway and could not be pumped into under any circumstances. In some situations, once major improvements to a few of these lines are made, then there may be some capacity.

The new Stevens Creek trunk line, when constructed, would have capacity. The new Salt Valley relief trunk line is designed for a specific service area and will be considered at capacity.

8. **Use of Storage Tanks:** The use of storage tanks is prohibited. Developments have proposed building storage tanks in order to pump the waste out at night in areas where the existing pipes are at capacity. There are compelling technical and operational problems with storing effluent for period beyond a few hours. For example, there are odor problems and the waste when held for a long period can cause corrosion problems in pipe lines. A pump station is typically designed to pump all the waste out every 2 to 3 hours, which is the longest period the waste should be held.

9. **Service Area of Pump Station:** The pump station and force main should be sized to serve Tier I, Priority A land that is in the same sub-basin which naturally drains to the pump station. Pump stations to benefit and serve a single property are discouraged. Small pump stations are inefficient to operate. Pump stations should be designed to serve at least 500 to 1,000 acres. The area to be served by the pump station must be contiguous to the city limits. This policy is not intended to permit "leap frog" or growth that is not contiguous to the city. Any land to be served must be inside the city limits prior to service.

10. **Length of Force Main**: Even if fully funded by a developer, building long force mains rather than a gravity sewer lines is inefficient use of the future homeowner's financial resources. The longer time it takes to transport the waste, the greater potential for problems with respect to corrosion and odor. The transit time must be based on estimated sulfide generating capacity (or offset by chemical addition). The developer must ensure reasonable velocity with at least 4 to 5 feet per second (fps) at least 1x/day. It will be important to make appropriate use of air relief valves, blowoffs, oxygen injection (if needed), in accordance with City design standards. To protect against peak flow impacts of major storm events, the pump station should be sunk in the ground and with an enlarged pipe coming in to the pump station to provide additional storage (Hydraulic Institute Standards 98). Standards will be needed for acceptable chemicals for use in pump station odor control.

11. **Notification of Other Affected Properties:** The City is responsible for contacting all other property owners that may reasonably be served by a pump station, early in the review process. This will allow other owners to have the same information and determine their interest in the potential pump station.

12. **Location of Pump Stations:** The developer is responsible for all costs involved in acquiring suitable land for the pump station and any costs for providing access drives to the facility. Pump stations shall not be in public right-of-way. The developer shall be solely responsible for all costs of any environmental analysis needed to locate the facility.

13. **Obtaining Right-of- Way and Easements:** The developer shall be solely responsible for all costs of obtaining right-of-way and easements without any reimbursement from the City or third parties. Force mains will be allowed to be located in arterial street right-of-way, if space is available. If the force main is to be abandoned after conversion to a gravity system, the developer must prove that there is adequate right-of-way for the unused force main and all other utilities typically found in the right-of-way.

14. **Construction:** The developer shall be solely responsible for all costs of constructing the pump station and force main. Construction plans shall be approved by the Director of Public Works and Utilities Department and be per city standards. Pump stations and force mains are considered temporary facilities and thus are not eligible for reimbursement under the Impact Fee Ordinance. Any construction will be solely at the cost of the developer without reimbursement from the City.

15. **Pump Station Design Specifications:** The City design specifications for temporary pump stations and force mains are under development and would be adopted by the Director of the Public Works & Utilities Department.

16. **Third Party Connections:** When another party other than the developer connects to the pump station that party shall reimburse the developer for their "fair share" of the cost of constructing and operating the pump station and force main. The method and formula for contribution is to be determined.

17. **Ownership and Operation:** The developer will own the pump station, land and easements, and the City will operate the pump station and force mains once inspections have been completed and the facilities are found acceptable. Pump stations in general are costly to maintain and operate and take staff dedicated to handle some time late night calls on failures and problems. Pump stations should be avoided and the City accepts operation responsibilities only to avoid problems of an inexperienced or inaccessible private operator would inadequately respond to complaints or emergency situations.

18. **Operating, Repair and Maintenance Costs:** There are substantial operation, repair and maintenance costs for a pump station and force main. The City may be required to hire additional staff to operate the facility. This requires specialized training and employees with this training are difficult to find to hire. The developer will be responsible for all costs for operating and maintaining the pump station and force main during the life of the facility. The costs of operating, maintenance, upgrading, permitting, administering, all are costs of the system that must be covered by the developer. This responsibility may not be passed to a Homeowner's Association, though obviously the cost may be included in the lot price. The City does not want the additional cost of collecting from multiple property owners.

    The developer will need to provide a bond for the operating costs over the full estimated life time of the facility at time of Annexation Agreement. The preliminary estimate for the operating, repair and maintenance costs is $25,000 per year. The bond will be estimated on a case by case basis depending upon the size and operation of the pump station and force main.

19. **Third Party Costs for Operation & Maintenance:** As third parties request connection, they will be required to pay all costs for operating and maintaining the pump station during the entire life of the facility.

20. **Closing of the Pump Station:** Once the station is decommissioned, the developer and any third parties will be billed all costs involved in decommissioning the station.

21. **Salvage Rights:** The developer shall fund all costs associated with properly abandoning the temporary pump station and force main, including any costs for restoring all property in or adjacent to the easements. The developer shall fund all costs associated with closing and removing the pump station. The developer shall have full salvage rights to the building, equipment and land for the pump station after it is closed. The future use of the land for the pump station shall be identified prior to approving the station.

Appendix

Background Information:

The **Mayor's Infrastructure Financing Committee** (MIFC) was a group charged in 2002-2003 with making recommendations to Mayor Wesley on how we pay to maintain and build the City's public infrastructure. One part of this effort was to examine ways to save on public infrastructure costs and increase the efficiency of infrastructure service delivery. The subcommittee on Cost Savings and Efficiency developed a recommendation on force mains based on a proposal by Kent Seacrest, attorney for a group of developers proposing a lift station and force main for development of land near 98th and O Streets.

The MIFC report included the following:

"1. Force Mains as Temporary Facilities
The Work Group recommends the selective deployment of force mains and lift stations as a temporary means for opening an area for future development. Developers would have to share in the costs of such systems. These systems would be replaced at such time as gravity flow services become available.

2. Service Considerations
The use of force main and lift stations would need to take into consideration these issues:

(1) the collection main into which the effluent is being pumped must have available capacity for the projected life of the force main or lift station;

(2) a written agreement regarding the specific geographic area contributing effluent via the force main or lift station must be defined prior to the provision of services; and

(3) as force mains and lift stations are more expensive to maintain than a gravity flow system, a written agreement regarding the developers contribution to the maintenance of the main or station must be in place prior to the provision of services."